Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) An apparatus for displaying an image in 3D, the apparatus comprising:

at least one display unit for producing a beam of a 2D frame including at least one row ~~of an array~~ of pixels ~~including~~ having sub-pixels corresponding to a plurality of elemental regions of the image in different view directions;

an optical lens arrangement ~~configured~~ to direct the beam from the plurality of ~~different~~ elemental regions into respective divergent beams corresponding to the different view directions;

a driver connected to the display unit to drive the at least one row of pixels of the display unit so as to refresh the 2D frame;

an optical scanning system having a rotary mirror element to receive the divergent beams from the lens arrangement; and

a control unit connected to the driver for changing a tilt of the rotary mirror element between each 2D frame display, causing the rows of the 2D frame to successively display as rows of a 3D image frame.

2. (Previously presented) The apparatus according to claim 1, further comprising a display screen, the scanning system being operable to direct the beams corresponding to the successive rows of the 3D image frame onto the screen.

3. (Previously presented) The apparatus according to claim 2, wherein the display screen comprises a diffuser for spreading the beams in a direction transverse to the row direction.

4. (Previously presented) The apparatus according to claim 3, wherein the diffuser comprises lenticular lenses positioned generally parallel to the row direction.

5. (Previously presented) The apparatus according to claim 1, further comprising a focus unit for focusing the elemental regions of rows of images onto the optical lens arrangement.

6. (Previously presented) The apparatus according to claim 5, wherein the focus unit comprises a plurality of converging lenses with different focal lengths in the horizontal and vertical direction in order to match the dimensions of the elemental region of rows with the dimensions of the optical lens arrangement.

7. (Previously presented) The apparatus according to claim 1, wherein the optical lens arrangement comprises lenticular lenses.

8. (Previously presented) The apparatus according to claim 1, wherein the rotary mirror element reflects the divergent beams.

9. (Previously presented) The apparatus according to claim 8, wherein the rotary mirror element is a rotating mirror or a rotating polygon with reflective surfaces.

10. (Previously presented) The apparatus according to claim 8, wherein the scanning system further comprises a concave mirror to receive the divergent beams from the rotary mirror element and display them as rows of the 3D image frame.

11. (Previously presented) The apparatus according to claim 10, wherein the scanning system comprises a lens positioned in relation to the rotary mirror element and the concave mirror such that the rotary mirror element does not perturb the focusing of the 3D image in the direction transverse to the row direction.

12. (Previously presented) The apparatus according to claim 10, wherein the scanning system further comprises side mirrors, the side mirrors and the concave mirror are configured to focus the divergent beams containing information from one pixel onto a small area of the rows of the 3D image frame.

13. (Currently amended) The apparatus of claim 1, wherein the ~~pixels include one or more subpixels to~~ sub-pixels provide enough elemental regions such that each of more than one

observer can observe the 3D image simultaneously and each of the more than one observer sees a slightly different view.

14. (Previously presented) The apparatus of claim 1, wherein there are at least 50 elemental regions for each image.

15. (Previously presented) The apparatus of claim 1, wherein for each elemental region there is another elemental region such that the images relating to the two elemental regions are shifted by less or equal to the parallax between the eyes.

16. (Previously presented) The apparatus of claim 1, wherein a plurality of display units are placed adjacent to each other in the direction parallel to the row direction and wherein the driver is configured to display different information on each display such that all the information corresponding to one row of the 3D image is displayed simultaneously across the plurality of the display units.

17. (Previously presented) The apparatus of claim 1, wherein a plurality of display units are placed adjacent to each other in the direction transverse to the row direction and wherein the driver is configured to display information on the plurality of displays relating to different rows of the 3D image frame and the scanning system comprises a plurality of rotary mirror elements for scanning the information onto said rows.

18. (Previously presented) The apparatus according to claim 1, further comprising at least one of a domestic video and television display.

19. (Currently amended) A method of displaying an image in 3D, the method comprising acts of:

providing a beam of a 2D frame including at least one row ~~of an array~~ of pixels, each pixel including sub-pixels corresponding to a plurality of elemental regions of the image in different view directions;

directing the beam from the a plurality of ~~different~~ elemental regions into respective divergent beams corresponding to the different view directions;

successively refreshing the 2D frame, receiving the divergent beams at a scanning device having a rotary mirror element, tilting the rotary mirror element between each 2D frame display and displaying them as rows of the 3D image frame.

20. (Previously presented) The method of claim 19, further comprising an act of spreading the light containing the divergent beams in a direction transverse to the row direction in order to enlarge the viewing angle in the direction transverse to the row direction.

21. (Previously presented) The method of claim 19, further comprising acts of:

displaying the 3D image on a display screen, and

separating the beams from different elemental regions before they are displayed on the display screen.

22. (Currently amended) The method of claim 19, comprising an act of creating a 3D pixel on the display screen by directing all the separate beams corresponding to different ~~subpixels~~ sub-pixels of the same pixel onto the same small area of the display screen, such that the 3D pixel emits light corresponding to different views of the same point of an image source in different directions.

23. (Previously presented) The method of claim 19, wherein the 3D image is displayed on at least one of a domestic television and video projection.